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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,009	02/21/2006	Tsutomu Ichinose	112857531	1746
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EXAMINER				
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2627				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/569,009

Applicant(s)

ICHINOSE ET AL.

Examiner

Aneeta Patankar

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-30 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 21 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-859)
Paper No(s)/Mail Date 12/19/06, 12/19/06, 2/21/06
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 29 and 30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 29 and 30 are drawn to a "computer program" *per se*, therefore, fail(s) to fall within a statutory category of invention.

A claim directed to a computer program itself is non-statutory because it is not:

A process occurring as a result of executing the program, or

A machine programmed to operate in accordance with the program, or

A manufacture structurally and functionally interconnected with the program in a manner which enable the program to act as a computer component and realize its functionality, or

A composition of matter.

See MPEP § 2106.01. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional

interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. **Claims 1-6, 8-16, 18-23, and 25-30** are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 7,203,147 B2 to *Kawakami et al.*

As to **claims 1, 18 and 29**, *Kawakami* discloses an information recording processing device, method and computer program characterized by comprising: a modulated data generating unit (15) and step for generating a modulated recording frame by performing data modulation processing on data to be recorded (Fig. 17, column 25, lines 8-10), where modulation generation unit (15) performs the step of modulation; recording frame characteristic determining means for determining a data characteristic of constituent data of an additional data-corresponding recording frame (Fig. 14, and 16, column 16, lines 18-23, columns 1—15, lines 66-13), where the

memory transfer controller (3) and the cluster buffer memory (4) determine which frame is in effect; and an additional data-corresponding data controlling unit and step for controlling constituent bits of a data- changeable data part on a basis of a constituent bit value of additional data and the data characteristic of the constituent data of said additional data- corresponding recording frame (Fig. 16, column 16, lines 18-23, Fig. 14, columns 14-15, lines 66-13), where the memory transfer controller (3) and the cluster buffer memory (4) control which the additional data-corresponding data or the preamble and suffix frames are used.

As to **claims 2, 9, 19, and 26**, *Kawakami* discloses the information recording processing device and method, wherein in said additional data-corresponding data controlling unit and step, and data decoding unit and step, the data part whose constituent bits are controlled is user control data (UCD) (Fig. 7, column 13, lines 31-35), where a 576-byte user control data is used.

As to **claims 3, 10, 13, 20 and 27**, *Kawakami* discloses the information reproduction processing device, information recording medium, and recording process method, wherein the data characteristic of constituent data of said additional data-corresponding recording frame is a characteristic of whether parity of the constituent data of the recording frame is even parity or odd parity (Fig. 5, column 13, lines 21-25), where the Reed-Solomon parity code determines whether the recording frame is an even or odd parity, and said additional data-corresponding data controlling unit and step controls the constituent bits of the data-changeable data part on a basis of two conditions of whether the constituent bit value of said additional data is 0 or 1 and

whether the parity of the constituent data of said additional data-corresponding recording frame is even parity or odd parity (Fig. 11, column 14, lines 9-14), where the next-generation MD2 system is the controlling unit and the 18-bit error-correcting parity code determines whether the additional data is a 0 or a 1; said additional data decoding unit and step obtains the additional data constituent bit information on a basis of two data characteristic determinations of whether the parity of the constituent data of said additional data- corresponding recording frame is even parity or odd parity and whether parity of constituent data of the specific user control data is even parity or odd parity (Column 9, lines 30-39), where the Viterbi decoding method is used which provides a decoding unit and RLL or run length parity preserve/prohibit mntr, determines whether the parity is even or odd; and said user control data has the data characteristic determined according to two conditions of whether the constituent bit value of said additional data is 0 or 1 and whether the parity of the constituent data of said additional data-corresponding recording frame is even parity or odd parity (Fig. 5 and 7, column 13, lines 21-25, 31-35), where user control data is used in determining the parity by the Reed-Solomon parity code.

As to **claims 4 and 21**, *Kawakami* discloses the information recording processing device and method, wherein said additional data-corresponding data controlling unit and step performs control to set parity of the data-changeable data part to one of odd parity and even parity (Fig. 11, column 14, lines 9-14, where the next-generation MD2 system is the controlling unit and the 18-bit error-correcting parity code controls whether the additional data is odd or even.

As to **claims 5, 15 and 22**, *Kawakami* discloses the information recording processing device, medium and processing method, wherein said additional data is set and stored as constituent information of at least one of encryption key information, encryption key generating information, content reproduction control information, and content copy control information for contents stored on said information recording medium (Fig. 54, column 39, lines 38-42), where the encryption unit (72) generates key information (74).

As to **claims 6, 16, and 23**, *Kawakami* discloses the information recording processing device, recording medium, and processing method, wherein said modulated data generating unit and step generates the modulated recording frame by performing a data conversion process satisfying RLL (1, 7) as a run length rule (Column 9, lines 30-35), where RLL (1,7)PP or 1-7pp modulation is used.

As to **claims 8 and 30**, *Kawakami* discloses an information reproduction processing device for reproducing information stored on an information recording medium, and a computer program for reproducing information stored on an information recording medium, said information reproduction processing device characterized by comprising: a demodulating unit (22) and step for demodulating data read from the information recording medium (Fig. 17, column 24, lines 8-11), where demodulation unit (22) performs the step of demodulation; and an additional data decoding unit (23) and step for determining data characteristics of an additional data-corresponding recording frame and specific user control data read from the information recording medium, and obtaining additional data constituent bit information on a basis of the two determined

data characteristics (Fig. 17, column 24, lines 8-11), where decoding unit (23) obtains the code train as the reproduced data or the recording frame.

As to **claims 11 and 28**, *Kawakami* discloses the information reproduction processing device and method, wherein at least one of encryption key information, encryption key generating information, content reproduction control information, and content copy control information for contents stored on said information recording medium is generated on a basis of the obtained additional data constituent bit information (Fig. 54, column 39, lines 38-42), where encryption unit (72) generates key information (74).

As to **claim 12**, *Kawakami* discloses an information recording medium storing: modulated data based on a plurality of recording frames (Fig. 17, column 25, lines 8-10), where modulation data generating unit (15) modulates the data; and user control data having a data characteristic determined on a basis of a constituent bit value of additional data and a data characteristic of constituent data of a specific additional data-corresponding recording frame selected from the plurality of recording frames (Fig. 7, column 13, lines 31-35), where user control data has 576-bytes, which is several bits.

As to **claim 14**, *Kawakami* discloses the information recording medium, wherein the data characteristic determined for said user control data is a data characteristic of whether parity of constituent data of said user control data is even parity or odd parity (Fig. 5, column 13, lines 21-25), where the Reed-Solomon parity code determines whether the recording frame is even or odd parity, and the user control data having the parity determined on a basis of the constituent bit value of said additional data and the

data characteristic of the constituent data of the specific additional data- corresponding recording frame selected from said plurality of recording frames is stored (Fig. 5 and 7, column 13, lines 21-25, 31-35), where user control data is used in determining the parity by the Reed-Solomon parity code.

As to **claim 25**, *Kawakami* discloses an information reproduction processing method for reproducing information stored on an information recording medium, said information reproduction processing method characterized by comprising: a demodulating step of demodulating data read from the information recording medium (Fig. 17, column 24, lines 8-11), where demodulation unit (22) performs the demodulation step; and an additional data decoding step of determining data characteristics of an additional data-corresponding recording frame and specific user control data read from the information recording medium, and obtaining additional data constituent bit information on a basis of the two determined data characteristics (Fig. 17, column 24, lines 8-11), where decoding unit (23) performs the decoding step and obtains the code train as the reproduced data or the recording frame.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 7, 17 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,203,147 B2 to *Kawakami et al.* in view of U.S. Patent No. 5,986,987 to *Taguchi et al.*

As to **claims 7, 17 and 24**, *Kawakami* is deficient in disclosing the information recording processing device, recording medium, and recording processing method, wherein said modulated data generating unit performs a modulated recording frame generating process including a process of conversion of two-bit information into three-bit information.

However, *Taguchi* discloses the information recording processing device, recording medium, and recording processing method, wherein said modulated data generating unit (11) performs a modulated recording frame generating process including a process of conversion of two-bit information into three-bit information (Fig. 6, columns 7-8, lines 64-1), where modulator (11) converts the two-bit data to three-bit data.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the modulated data generating unit as taught by *Kawakami* by including that the modulator converts two-bit data to three-bit data as taught by *Taguchi*. The suggestion/motivation would have been in order for the data to be an accordance with a rule such that the 1/7 modulation of data is met in order to meet the partial response class I characteristics (*Taguchi*, columns 7-8, lines 64-4).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aneeta Patankar whose telephone number is (571) 272-9773. The examiner can normally be reached on Monday-Thursday 8-5, Second Friday, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jorge L Ortiz-Criado/
Primary Examiner, Art Unit 2627

/A.P./
12/15/08